

# NEW OR OTHERWISE NOTEWORTHY APOCYNACEAE OF TROPICAL AMERICA

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**Tabernaemontana Killipii** Woodson, sp. nov., arborea ca. 4–5 m. alta; ramulis dichotome divisis teretibus in sicco obscure angulatis junioribus brevissime scabro-hirtellis tandem glabratis; foliis oppositis petiolatis subcoriaceis late ovato-ellipticis apice breviter obtuseque acuminatis basi obtusis 25–30 cm. longis 14–15 cm. latis omnino glabris; petiolis ca. 1 cm. longis basi imo fossatis marginibus linea transversali conjunctis; cymis lateralibus divergenter dichotome ramosis 20–30-floris pedunculo scabro-hirtello 5–6 cm. longo; bracteis ovato-reniformibus scariaceis margine ciliolatis ca. 0.1 cm. longis; pedicellis 0.75–1.0 cm. longis glaberrimis; calycis lobis ovato-oblongis obtusiusculis plus minusve inaequalibus 0.3–0.4 cm. longis glaberrimis; corollae lobis oblique oblongis paulo dolabiformibus ca. 0.3–0.4 cm. longis tubo cylindrico 0.75–1.0 cm. longo; antheris linearibus omnino insertis; ovariis oblongoideis glabris nectario nullo vel vix manifesto; folliculis laevibus oblongo-ellipsoideis utrinque acuminatis divergentibus parvulis.—“Peru, Dept. Loreto: Iquitos, woods, alt. about 100 m., Aug. 2–8, 1929.” *E. P. Killip & A. C. Smith* 27414 (Mo. Bot. Garden Herbarium, TYPE, U. S. National Herbarium, duplicate).

*Tabernaemontana Killipii* is closely allied to *T. hirtula* Mart. The leaves of the former, however, are much larger, of a different shape, and with a petiole scarcely one-half the length of that of the latter species. Moreover, the inflorescence of *T. Killipii* differs from that of *T. hirtula* in having a peduncle of greater length, longer pedicels, and glabrous calyx-lobes.

**Rauwolfia lauretiana** Woodson, sp. nov., arborea omnino glabra altitudine ignota; ramulis teretibus cortice griseis longitudinaliter striatis sparse lenticellosis; foliis membranaceis longiuscule petiolatis ternatim vel quaternatim in apicibus ramulorum verti-

Issued December 24, 1931.

ANN. MO. BOT. GARD., VOL. 18, 1931.

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cillatis ovatis apice longe obtuseque acuminatis basi subiter attenuatis conspicue inaequalibus maioribus 9–10 cm. longis ca. 5 cm. latis minoribus 5–7 cm. longis 3.0–3.5 cm. latis petiolo 1.5–2.0 cm. longo eglanduloso; cymis terminalibus 4–12-floris divergentibus pedunculo ca. 1 cm. longo; bracteis squamosis minimis; pedicellis pedunculis subaequantibus; calycis lobis late deltoideis obtusissimis ca. .075 cm. longis 0.2–0.25 cm. latis margine minute ciliolatis intus eglandulosis; corollae tubo cylindrico basi haud dilatato ca. 1 cm. longo fauce ca. 0.2 cm. diametro extus glabro intus sub staminibus sparse piloso lobis obovatis obtusiusculis ca. 0.5 cm. longis; antheris ovoideis ca. 0.2 cm. longis apice haud appendiculatis; ovariis oblongoideis glabris nectarium annuliforme apice integrum ca. triplo superantibus; fructibus ignotis.—“Peru, Dept. Loreto: Mishuyacu, near Iquitos, alt. 100 meters; forest, Nov., 1929.” *G. Klug* 35 (U. S. National Herbarium, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

Taking Markgraf's recent revision of the genus *Rauwolfia*<sup>1</sup> as a guide, it has been ascertained that *R. lauretiana* should be classified as included within the section *Grandiflorae* Mgf., and is evidently most closely related to *R. paucifolia* A. DC. From that species, however, *R. lauretiana* presents a strong contrast by reason of the leaves, which are lanceolate, 2.5–4.5 cm. long, with a petiole about 0.5 cm. long in the former species, and are ovate, 5–10 cm. long, and borne upon a petiole 1.5–2.0 cm. long in the latter. The dimensions of the floral organs are also different, the calyx-lobes of *R. paucifolia* being lanceolate, and those of *R. lauretiana* extremely depressed-deltoid. The corolla tube of the latter species, moreover, is nearly one-third longer than that of the former.

***Rauwolfia sanctorum*** Woodson, sp. nov., arborea omnino glabra ca. 3–4 m. alta; ramis pendulis teretibus rimosis olivaceo-griseis; foliis petiolatis subcoriaceis ternato-verticillatis paene inaequalibus elliptico-oblanceolatis apice longe et acute acuminatis basi in petiolum eglandulosum 1.0–1.5 cm. longum cuneato-angustatis cum petiolo 9–14 cm. longis 3.5–4.0 cm. latis supra

<sup>1</sup> Mgf. in Fedde, Repert. 20: 114–122. 1924.

nitidulis subtus pallidioribus nervis secundariis utrimque prominulis arcuatis sat remotis; cymis solitariis evidenter terminalibus dichasialibus divergentibus 8–12-floris pedunculo gracili ca. 5 cm. longo; pedicellis ca. 0.5 cm. longis; bracteis squamosis subulatis minimis; calycis lobis ovatis breviter acuminatis ca. 0.1 cm. longis vix aequalibus; corollae gilvae tubo longe cylindrico 1.25–1.5 cm. longo 0.15 cm. diametro metiente sub fauce paulum inflato extus glabro intus in dilatatione superiore barbato-piloso lobis obovato-oblongis obtusissimis ca. 0.4 cm. longis; antheris ovoideis longe acuminatis subsessilibus; stigmate late tympaniformi ca. 0.1 cm. alto apice obtuse bilobato basi annulo conspicuo ornato; ovaris obovoideis glabris nectarium breviter cylindricum duplo superantibus; fructibus ignotis.—“Colombia, Dept. Santander: northern slope of Mesa de los Santos; alt. 1000–1500 m., Dec. 11–15, 1926.” *E. P. Killip & A. C. Smith* 15392 (Mo. Bot. Garden Herbarium, TYPE, U. S. National Herbarium, duplicate).

Like the species immediately preceding, *Rauwolfia sanctorum* appears to be most definitely related to the species of the section *Grandiflorae*. It is a small tree bearing ternately verticillate, elliptic-ob lanceolate, definitely petiolate leaves of a somewhat leathery texture. The calyx-lobes are one-twelfth to one-fifteenth the length of the corolla-tube, which is 1.25–1.5 cm. long. The terminal cyme is solitary. On the other hand, the leaves of *R. bahiensis* A. DC., which is evidently its nearest affinity, are obovate, the calyx-lobes are about one-third the length of the corolla-tube, which is only about 0.8 cm. long, and the terminal cymes are geminate or ternate. The geographical distribution of either species is also distinct.

**Dipladenia Achrestogyne** Woodson, sp. nov., suffruticosa volubilis pauce ramosa omnino glabra; ramis gracilibus teretibus in sicco plus minusve striatis; foliis oppositis petiolatis membranaceis late ovato-oblongis apice breviter acuminatis basi obtusiusculis 5–9 cm. longis 2.5–6.0 cm. latis in sicco fuscis subtus in parenchymate inter venulas levissimis pallidis; racemis alternatis lateralibus subterminalibusve subspiciformibus ca. 5–15-floris pedunculo foliis fere semper aequante; bracteis scariaceis ovato-lanceolatis 0.5–0.7 cm. longis pedicellos paulo superantibus; lobis calycis

scariaceis anguste lanceolatis acutiusculis 0.3–0.4 cm. longis basi intus multiglandulosis; corollae lobis oblique oblongis plus minusve dolabriformibus 0.75–1.0 cm. longis paulo reflexis tubo longe-cylindrico 1.5–1.75 cm. longo; ovariis oblongoideis glabris nectario 2–5-lobo vix manifesto; folliculis ignotis.—“Colombia, Dept. Cundinamarca: rocky canon, Chapinero, near Bogota, alt. 2800–2900 m., Sept. 18–23, 1917.” *F. W. Pennell 2034* (N. Y. Bot. Garden Herbarium, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

*Dipladenia Achrestogyne* is easily distinguished from *D. congesta*, which should evidently be regarded as its closest affinity, since it is absolutely glabrous in all parts, whereas the latter species is softly tomentulose to hirtellous throughout. The inflorescence of the former, moreover, is a regular, subspiciform raceme with pedicels rather laxly and distantly arranged, differing markedly from the distally congested inflorescence of *D. congesta*.

*D. Achrestogyne* has been named from the Greek ἀχρηστος and γυνή, with reference to the extreme reduction of the gynoecial nectaries and to the theory that they may be regarded as carpel-lodes.

***Dipladenia oblongifolia*** Woodson, sp. nov., suffruticosa volubilis plus minusve ramosa; ramis gracilibus flexuosis glabris; foliis oppositis petiolatis membranaceis late oblongis apice breviter acuminatis basi obtusiusculis 7–15 cm. longis 2.0–3.5 cm. latis supra glabris subtus tenuissime puberulis petiolo 2–3 cm. longo in annulo obscuro stipularum instructo; racemis lateralibus alternatis 3–5-floris pedunculo foliis subaequante; bracteis scariaceis minimis; pedicellis ca. 1 cm. longis; calycis lobis scariaceis anguste lanceolatis 0.5–0.7 cm. longis basi intus multiglandulosis; corollae lobis obovatis dolabriformibusque ca. 3.5 cm. longis paulo reflexis tubo 4.0–4.5 cm. longo usque 1/3 longitudinem anguste cylindrico dein latius cylindrico-dilatato fauce ca. 1.25 cm. lato; nectario 2-lobo ovariis bis vel ter breviore; folliculis ignotis.—“Bolivia, Sur-Yungas: La Florida, vec. de Yanocochi, alt. 1700 m., Dec. 6, 1906.” *O. Buchtien 590* (U. S. National Herbarium, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

*Dipladenia oblongifolia* finds its natural alliance with the group of species centering about *D. Martiana*, because of its volubile habit and conspicuous nodal, or stipular appendages. It may easily be distinguished from *D. glabra* Rusby, of the same general region of South America, by its characteristically oblong foliage which is softly puberulent beneath, and by its larger flowers which are also of a somewhat different construction in general. The squamellae, or internal glandular emergences of the calyx, moreover, are decidedly fewer in the latter species, and are arranged in groups alternate with the lobes of the calyx, whereas they are more numerous and are uniformly distributed in *D. oblongifolia*.

*Dipladenia upatae* Woodson, sp. nov., suffruticosa volubilis pauce ramosa omnino glabra; ramis gracilibus flexuosis in sicco plus minusve striatis; foliis oppositis petiolatis membranaceis oblongo-lanceolatis apice acuminatis basi late cordatis evidenter conduplicatis 7–12 cm. longis 2.0–3.5 cm. latis petiolo 0.5–0.75 cm. longo in annulo obscuro stipularum instructo; racemis lateralibus alternatis ca. 3-floris pedunculo foliis subaequante; bracteis scariaceis minimis; pedicellis ca. 0.5 cm. longis; calycis lobis scariaceis glabris lanceolatis acuminatis 0.4–0.5 cm. longis basi intus biglandulosis; corollae lobis late obovato-dolabri-formibus ca. 2.5 cm. longis paulo reflexis tubo 2.5–3.0 cm. longo usque 1/2 longitudinem anguste cylindrico dein paulo latiore fauce ca. 0.5 cm. diametro; nectario 2-lobo ovarii oblongoideis glabris bis vel ter breviore; folliculis ignotis.—“Venezuela: Upata,” date lacking, *E. Osta 1014* (Herbarium Mus. Hist. Nat. Vindobonensis, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

*D. upatae* falls naturally into the group of species of *Dipladenia* comprising *D. fragrans* A. DC., *D. urophylla* Hook., and *D. surinamensis* Pulle, all of which are characterized by leaves which are more or less conduplicate when desiccated. From all the close relatives to which reference has been made, however, *D. upatae* differs by reason of the extremely narrow, cylindrical corolla-throat, and in the paired squamellae, or internal calycine emergences, which are indefinite in number among the allied species.

**Odontadenia cognata** (Stadelm.) Woodson, n. comb.

*Echites cognata* Stadelm. Flora 24: I Beibl. 79. 1841.

*Anisolobus cognatus* (Stadelm.) Muell.-Arg. in Martius, Fl. Bras. 6<sup>1</sup>: 113. 1860.

**Odontadenia Perrottetii** (A. DC.) Woodson, n. comb.

*Anisolobus Perrottetii* (A. DC.) in DC. Prodr. 8: 395. 1844.

**Odontadenia polyneura** (Urb.) Woodson, n. comb.

*Rhabdadenia polyneura* Urb. Symb. Ant. 7: 337. 1912.

**Odontadenia Killipii** Woodson, sp. nov., fruticosa volubilis omnino glabra; ramis ramulisque teretibus fuscis lenticellas parvas conspicue gerentibus; foliis oppositis longiuscule petiolatis subcordiaceis in sicco fuscis late oblongo-ellipticis apice subiter et obtuse acuminatis basi acutiusculis 6–8 cm. longis 3–5 cm. latis petiolo 1.0–1.5 cm. longo in annulo obscuro stipularum instructo; cymis terminalibus 15–20-floris pedunculo petiolos 5–6-plo superante; bracteis ovatis squamosis 0.2–0.3 cm. longis; pedicellis 0.5–0.7 cm. longis; calycis lobis plus minusve inaequalibus ovatis vel late ovato-oblongis 0.2–0.3 cm. longis intus in marginibus positis 1–2 glandulis; corollae speciosae lobis oblique obovatis dolabriformibus 2.5–3.0 cm. longis paulo reflexis tubo 3.0–3.5 cm. longo usque 1/4 altitudinem anguste cylindrico dein staminigero et abrupte conico-dilatato; antheris linearibus dorso minute puberulo-papillatis 0.3–0.4 cm. longis; nectario tubuloso-cupuliformi apice integro vel minutissime crenulato ovariis oblongoideis glabris paulo breviore; folliculis ignotis.—“Peru, Dept. Loreto: Iquitos; woods, alt. about 100 m., Sept. 26, 1929.” *E. P. Killip & A. C. Smith* 29847 (Mo. Bot. Garden Herbarium, TYPE, U. S. National Herbarium, duplicate).

*Odontadenia Killipii* bears a strong superficial resemblance to *O. cognata*, chiefly because both species have a terminal inflorescence and foliage which assumes a decided bronze coloration upon desiccation. The coloration of the desiccated foliage, incidentally, appears to be a trustworthy and quickly perceived indicator of relationship among the species of the genus, although it has evidently never been used as such in publication. *O.*

*Killipii* may easily be distinguished from *O. cognata*, since the former has a corolla-tube 3.0–3.5 cm. long, narrowly cylindrical for one-quarter its length and then abruptly and broadly conical, calyx-lobes which are among the shortest of the genus, only 0.2–0.3 cm. long, and oblong-elliptic leaves which are acute or somewhat obtuse at the base; whereas the latter has a corolla-tube 5–6 cm. long, narrowly cylindrical for about one-half its length and then abruptly dilated into a much broader, cylindrical throat, calyx-lobes 0.8–0.9 cm. long, and broadly ovate-cordate leaves with a broadly auriculate base.

***Odontadenia Sandwithiana* Woodson, sp. nov.**, *fruticosa volubilis omnino glabra*; *ramis ramulisque teretibus plus minusve longitudinaliter striatis lenticellas parvas conspicue gerentibus*; *foliis oppositis longiuscule petiolatis subcoriaceis in sicco olivaceis oblongo-ellipticis apice breviter et saepius obtuse acuminatis basi acutis et paulo inaequilateralibus 10–15 cm. longis 4–6 cm. latis superne angustiore petiolo 1.5–2.0 cm. longo in annulo obscurō stipularum instructo*; *cymis lateralibus vel pseudoterminalibus 6–10-floris pedunculo petiolos ca. duplo superante*; *bracteis ovatis squamosis 0.1–0.2 cm. longis*; *pedicellis 0.2–0.3 cm. longis*; *calycis lobis oblongis obtusis distinctissime inaequalibus 1.0–1.5 cm. longis intus in marginibus positis 1–2 glandulis*; *corollae lobis late et oblique oblongis in alabastro ca. 1 cm. longis tubo ca. 2 cm. longo usque 1/2 altitudinem anguste cylindrico dein staminigero et paulo ampliore cylindrico-dilatato*; *antheris linearibus dorso glabris vel minutissime papillatis 0.5–0.6 cm. longis*; *nectario tubuloso apice crenulato ovarium oblongoideum glabrum paulo superante*; *folliculis ignotis*.—“British Guiana, Essequibo River: Moraballi Creek, near Bartica, alt. near sea-level, Nov. 2, 1929.” *N. Y. Sandwith 552* (Herbarium Kew., TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

*Odontadenia Sandwithiana* is closely allied to *O. Perrottetii*, indigenous to the same general region, but differs from the latter in its axillary or pseudoterminal inflorescence, its smaller corolla with a cylindrical, not campanulate, proper throat, and in its much larger leaves borne upon a petiole more than twice as long as that of the latter species. Although fully mature flowers were

not available for study, buds which were collected shortly before unfolding are of dimensions unusually small for the genus.

*Odontadenia stemmadeniaefolia* Woodson, sp. nov., fruticosa volubilis; ramis teretibus longitudinaliter striatis glabris in sicco dilute flavo-coloratis; foliis oppositis breviuscule petiolatis rigidule membranaceis vel subcoriaceis fuscentibus oblongo-ovatis basi saepissime plus minusve cuneato-angustatis apice breviter et obtuse cuspidatis 15–20 cm. longis 8–10 cm. latis superne angustioribus omnino glabriusculis petiolo 1.0–1.5 cm. longo in annulo obscurō stipularum instructo; cymis lateralibus 3–5-floris pedunculo foliis paulo breviore; bracteis squamosis minimis; pedicellis 1.0–1.25 cm. longis glabris; calycis lobis subaequalibus ovato-reniformibus ca. 0.2 cm. longis glabris vel margine minutissime ciliolatis intus in margine positis 2–3 glandulis; corollae lobis oblique et late obovatis 1.5–2.0 cm. longis tubo ca. 1.5 cm. longo extra calycem ventricoso-dilatato dein constricto et ad basin partis iterum dilatatae staminigero et sensim obconico-dilatato; antheris anguste oblanceolatis dorso dense lanulosis ca. 0.8 cm. longis; ovariis ovoideis glabris nectario cupulato apice crenulato et multifido subaequante; folliculis ignotis.—“Peru, Dept. Loreto: Mishuyacu, near Iquitos, alt. 100 m.; forest, Jan., 1930.” *G. Klug 782* (U. S. National Herbarium, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

The nearest relative of the preceding species is evidently *O. speciosa* Benth., as is witnessed by the large, obovate and somewhat cuneate foliage and the short, obconic corolla-throat. The corolla of *O. stemmadeniaefolia*, however, is only about one-half to one-third the size of that of *O. speciosa*, and also differs in the color, which is said by the collector to have been “brick red.” Additional features which may be cited as distinguishing *O. stemmadeniaefolia* from *O. speciosa* are the smaller, more nearly isophyllous calyx and the fewer-flowered inflorescence with the pedicels congested at the end of the longer peduncle. The specific name refers to the resemblance of the foliage to that of several species of *Stemmadenia*.

*Odontadenia augusta* Woodson, sp. nov., fruticosa volubilis; ramis teretibus lenticellas parvas conspicue gerentibus glabris

in sicco rubidulo-coloratis; foliis oppositis longiuscule petiolatis rigidule membranaceis late oblongis apice breviter et obtuse acuminatis basi obtusis superne acutiusculis 20–25 cm. longis, 8–10 cm. latis omnino glabriusculis supra fuscentibus subtus olivaceo-viridibus petiolo ca. 2 cm. longo minute hispidulo in annulo obscuro stipularum instructo; paniculis lateralibus 15–20-floris pedunculo foliis paulo breviore minute ferrugineo puberulo; bracteis ovatis squamosis minimis; pedicellis 1.0–1.25 cm. longis sicut ad pedunculos vestitis; calycis laciniis valde inaequalibus late oblongis obtusis 0.8–1.0 cm. longis extus plus minusve ferrugineo-papillatis margine ciliolatis intus in margine uniglandulosis; corollae lobis oblique et late obovato-reniformibus 1.0–1.25 cm. longis paulo reflexis tubo 4.0–4.5 cm. longo usque  $\frac{1}{3}$  altitudinem anguste cylindrico dein staminigero et sensim cylindrico-conico-dilatato; antheris linearis ca. 0.5 cm. longis dorso minute papillato-striatis; ovarii ovoides minutissime papillatis nectarium cupulatum apice crenulatum paulo superantibus; folliculis ignotis.—“Peru, Dept. Loreto: Mishuyacu, near Iquitos, alt. 100 m.; forest, Dec., 1929.” *G. Klug* 657 (U. S. National Herbarium, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

Although closely allied to *Odontadenia Cururu* (Mart.) K. Sch., *O. augusta* is distinct because of its much larger leaves, its longer, oblong calyx-lobes, and, particularly, the very shallow, annular nectary which does not conceal the ovary as in the former species.

**Odontadenia affinis** Woodson, sp. nov., fruticosa volubilis; ramis teretibus longitudinaliter striatis glabris lenticellas parvas paucas gerentibus in sicco rubidulo-coloratis; foliis oppositis breviter petiolatis subcoriaceis oblongo-ovatis apice breviter et obtuse cuspidatis basi acutiusculis 6–8 cm. longis 3.5–4.0 cm. latis omnino glabris supra fuscentibus subtus olivaceo-viridibus venis transversis prominulis petiolo 0.5–0.75 cm. longo in annulo obscuro stipularum cincto; paniculis lateralibus paucifloris breviuscule (3–4 cm.) pedunculatis; bracteis squamosis minimis; pedicellis glabris ca. 0.5 cm. longis; calycis laciniis ovatis obtusiusculis plus minusve conspicue inaequalibus 0.4–0.5 cm. longis extus glabris vel margine minutissime ciliolatis intus in margine

positis 3-4 glandulis; corollae lobis oblique obovatis 1.5-2.0 cm. longis paulo reflexis tubo 3.5-4.0 cm. longo usque  $\frac{1}{2}$  altitudinem anguste cylindrico dein sensim longiuscule conico-dilatato dimidiam altitudinem partis angustae staminigero; antheris anguste lanceolatis ca. 0.5 cm. longis dorso minutissime papillatis; ovariis breviter ovoideis glabris nectarium cupulatum crenulatum ca. bis terve superantibus; folliculis ignotis.—“Peru, Dept. Loreto: Balsapuerto (lower Rio Huallaga basin); alt. 150-350 m.; dense forest, Aug. 28-30, 1929.” *E. P. Killip & A. C. Smith* 28609 (U. S. National Herbarium, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

The insertion of the stamens midway within the narrowly cylindrical corolla-throat may be interpreted as indicating a close relationship of *Odontadenia affinis* with *O. cognata*. From the latter species, however, *O. affinis* differs because of the smaller leaves and calyx-lobes, the lateral, few-flowered inflorescence, the proportionally longer corolla-tube, and the glabrous ovary about two or three times surpassing the altitude of the shallow, annular nectary.

***Odontadenia glauca*** Woodson, sp. nov., fruticosa volubilis; ramis teretibus evidenter gracilibus longitudinaliter striatis lenticellulas parvas paucas gerentibus; foliis oppositis breviter petiolatis coriaceis in sicco margine revolutis oblongo-obovatis apice breviter et acute acuminatis basi rotundatis 6.5-8.0 cm. longis, 3.5-4.5 cm. latis supra viridibus nitidis subtus glaucis venulis transversis distinctissimis petiolo 0.3-0.5 cm. longo superne breviore; paniculis subterminalibus (vel lateralibus ?) paucifloris pedunculo brevissimi petiolis subaequante; bracteis squamosis minimis; pedicellis ca. 1 cm. longis gracilibus glabris; calycis laciniis subaequalibus ovato-triangularibus acutiusculis ca. 0.1 cm. longis vix imbricatis glabris intus in margine uniglandulosis; corollae lobis oblique oblongis in alabastro 1.0-1.25 cm. longis tubo 1.5-2.0 cm. longo gracili usque  $\frac{1}{2}$  altitudinem cylindrico dein staminigero et anguste tubuloso-dilatato; antheris oblongo-lanceolatis acutis ca. 0.6 cm. longis dorso glabris; ovariis ovoideis glabris nectarium 5-lobatum paulo superantibus; folliculis ignotis.—“Venezuela, Amazonas Territory: Cerro Yapacana, upper Rio Orinoco; alt.

about 100 m., April, 1931." *E. G. Holt & E. R. Blake* 750 (U. S. National Herbarium, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

One of the most conspicuous and natural groups of species within the genus *Odontadenia* is that which centers about *O. nitida* (Vahl) Muell.-Arg., and comprises, in addition to that species, *O. hypoglauca*, *O. coriacea*, *O. geminata*, and *O. polyneura*. To this group *O. glauca* must be added, since it possesses the shining, glaucous foliage, the narrow corolla-tube, and the barely concrescent nectaries common to all. From all the species enumerated, however, it differs because of the smaller flowers, the extremely small (0.1 cm.) lobes of the calyx, which can scarcely be described as sheathing as in all other species of the genus, and the strongly revolute margin of the leaves.

**Malouetia Killipii** Woodson, sp. nov., arborea erecta ca. 10–12 m. alta; ramulis gracilibus teretibus in sicco longitudinaliter striatis lenticellas parvas et remotas gerentibus; foliis oppositis brevissime petiolatis membranaceis vel subcoriaceis late ovato-lanceolatis apice longe et obtuse acuminatis basi subiter attenuatis acutisque cum petiolo ca. 0.25 cm. longo 20–25 cm. longis 6–8 cm. latis supra glabris subtus sparse et tenuissime puberulis; cymis lateralibus vel terminalibus umbellatis brevissime pedunculatis ca. 10–20-floris; pedicellis glabris 0.75–1.0 cm. longis; bracteis squamosis minimis; calycis lobis ovato-reniformibus obtusiusculis 0.1 cm. longis 0.15–0.2 cm. latis patente inaequalibus extus apice minutissime puberulo-papillatis intus in marginibus uniglandulosis; corollae lobis ovatis acutisque 0.75 cm. longis 0.5 cm. latis extus glabris intus dense puberulo-papillatis valde reflexis tubo cylindrico basi paulo dilatato ca. 1 cm. longo saepissime glabro fauce obscure 5-squamato; antheris exsertis dorso minute et dense papillatis; nectario e glandulis 5 ovoideis truncatis subliberis ovario dimidio aequante; folliculis ignotis.—"Peru, Dept. Loreto: Iquitos, woods, alt. about 100 m., Sept. 26, 1929." *E. P. Killip & A. C. Smith* 29860 (Mo. Bot. Garden Herbarium, TYPE, U. S. National Herbarium, duplicate).

Until the discovery of the immediately preceding species, there had been but one *Malouetia* reported as possessing a foliar

indument. Both species are natives of the upper Amazon valley. The previously published species, *M. pubescens* Mgf., however, is apparently to be found in a slightly different territory than that of *M. Killipii*, namely the upper Rio Branco, near S. Marcos. *M. Killipii* differs from *M. pubescens* in several important particulars. In the former the leaves are ovate-lanceolate, glabrous above, sparsely and minutely puberulent beneath, the inflorescence relatively many-flowered, the pedicels 0.75–1.0 cm. long and absolutely glabrous, the calyx-lobes ovate-reniform (about twice as broad as long), the corolla-tube 1 cm. long and the lobes but 0.75 cm. long, and the anthers merely papillate dorsally. On the other hand, *M. pubescens* is described (Mgf. Notizblatt 9: 88. 1924) as having ovate leaves which are sparsely pilose above and very densely velutinous beneath, a few-flowered inflorescence, ovate calyx-lobes (about twice as long as broad), pubescent pedicels only 0.5 cm. long, the corolla-tube 0.3 cm. long and the lobes 0.6 cm. long, and anthers which are densely hirsute dorsally.

**Macropharynx spectabilis** (Stadelm.) Woodson, n. comb.

*Echites spectabilis* Stadelm. Flora 24: I Beibl. 44. 1841.

*Elytropus spectabilis* (Stadelm.) Miers, Apoc. S. Am. 116. 1878.

*Macropharynx fistulosa* Rusby, Mem. N. Y. Bot. Gard. 7: 329. t. 6. 1927.

**Prestonia agglutinata** (Jacq.) Woodson, n. comb.

*Echites agglutinata* Jacq. Enum. Pl. Carib. 13. 1760.

*Echites circinalis* Sw. Prodr. 52. 1788.

*Haemadictyon circinalis* (Sw.) G. Don, Dict. 4: 83. 1838.

*Anechites adglutinata* (Jacq.) Miers, Apoc. S. Am. 236. 1878.

**Prestonia Dusenii** (Malme) Woodson, n. comb.

*Echites Dusenii* Malme, Arkiv f. Bot. 22A<sup>2</sup>: 9. 1928.

**Prestonia coalita** (Vell.) Woodson, n. comb.

*Echites coalita* Vell. Fl. Flum. 112. 1830; Icon. 3: t. 40. 1827.

*Rhaptocarpus coalitus* (Vell.) Miers, l. c. 152. 1878.

The three species enumerated above, with the possible addition of a very few others whose specific validity has not been fully

established as yet, constitute a small and very natural group the generic identity of which has been brought into dispute upon several occasions. From *Echites* (*sensu strictiore*), the group of species enumerated differs in the inflorescence, which is racemose, and in the thickened annulus of the corolla orifice. *Anechites*, on the other hand, is a genus of an entirely different subfamily, namely, Plumeroideae, which can include the foregoing species under no circumstances. *Rhaptocarpus* is a genus of no morphological validity, especially founded by Miers for the inclusion of *P. coalita*.

All three species display the essential characteristics of *Prestonia*, which may be epitomized as follows: anthers bearing two parallel sporangia ventrally upon an enlarged, sterile, basally 2-pronged connective; clavuncle fusiform; calyx-lobes bearing a solitary, internal, glandular appendage; orifice of the corolla-throat constricted by a thickened annulus; leaves eglandular. The species do not possess the five internal, strap-shaped appendages attached to the corolla-tube just above the insertion of the stamens, it is true, but those appendages should not be considered with undue emphasis, as they may or may not occur among species of indubitable congenericity (cf. *P. Muelleri* Rusby and *P. Riedelii* (Muell.-Arg.) Mgf.).

It is significant that G. Don transferred *E. circinalis* Sw. to *Haemadictyon* Lindl., a genus which is almost universally considered to be synonymous with *Prestonia* R. Br. at the present time. It is interesting to find, furthermore, that Miers also recognized the affinity of the species included under his genus *Rhaptocarpus* with those of *Prestonia* (Miers, Apoc. S. Am. 151. 1878), but mistook the undeveloped fruit of the only specimen of the former which he was able to examine for a bilocular, syncarpous capsule instead of two confluent follicles in a very immature state (to the fancied resemblance of which he frankly coined the generic name!).

***Prestonia portobellensis* (Beurl.) Woodson, n. comb.**

*Echites portobellensis* Beurl. Vet. Akad. Handl. Stockh. 137. 1854 (1856).

*Prestonia (Haemadictyon) macrocarpa* Hemsl. Biol. Cent.-Am. Bot. 2: 311. 1881.

The material upon which Beurling based his species is represented by two specimens collected by Billberg in April, 1826, at Porto Bello, Province of Colon, Panama, "in silvis ad littora." These two specimens are in an excellent state of preservation at the present time, and are deposited in the Botanical Museum at Stockholm. *Fendler 250*, cited by Hemsley as a cotype of *P. macrocarpa*, is represented by a duplicate in the herbarium of the Missouri Botanical Garden, and has been found by the writer to be identical with the specimens of Billberg. Since *Fendler 250* bears the data "Chagres, Isthmus of Panama," it is clear that the two collections were made in the same general locality. The species is apparently frequent from Guatemala to Colombia.

**Prestonia velutina** Woodson, sp. nov., suffruticosa volubilis pauc ramosa; ramis gracilibus flexuosis junioribus dense luteo-puberulis; foliis oppositis brevissime petiolatis membranaceis elliptico-lanceolatis apice acuminatis basi paulo attenuatis et saepissime obtusiusculis cum petiolo 5-8 cm. longis 1.5-2.5 cm. latis supra sparse puberulo-hirtellis subtus tenui luteo-velutinis; racemis axillaribus alternatis 10-15-floris pedunculo ca. 4 cm. longo breviter luteo-hirtello; bracteis subfoliaceis oblongo-ovatis parce hirtellis 0.2-0.3 cm. longis pedicellis 2-3-plo brevioribus; lobis calycis ovato-lanceolatis acuminatis subfoliaceis ca. 0.75 cm. longis extus sparse et tenui luteo-hirtellis intus glabris basi uniglandulosis; corollae lobis oblique obovatis dolabriformibus 0.5-0.75 cm. longis valde reflexis tubo anguste cylindrico 1.0-1.5 cm. longo fauce staminigero squamis linearibus exsertis ca. 0.5 cm. longis; nectario 5-lobo ca. 0.15 cm. alto ovariis oblongoideis glabris subaequante; folliculis ignotis.—"Colombia: Hondo, Aug., 1919." *Bro. Ariste-Joseph s. n.* (U. S. National Herbarium, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

*Prestonia velutina* simulates *P. acutifolia* (Benth.) K. Sch. in the general outline of the leaves and size and disposition of the flowers. In the former, however, the calyx-lobes are much more conspicuous and subfoliaceous, and the whole plant, with the exception of the exterior of the corolla, is covered with a fine, yellowish, velutinous or hirtellous indument.

*Prestonia isthmica* Woodson, sp. nov., fruticosa; ramis volubilis teretibus sat crassis longitudinaliter striatis dense luteo-hirtellis; foliis oppositis brevissime petiolatis membranaceis oblongo-ovatis apice breviter et acute acuminatis basi obtusis et obscure auriculatis 15–20 cm. longis 10–13 cm. latis supra minute et sparse strigillosis mox glabratis subtus leviter luteo-hirtellis petiolo ca. 0.3 cm. longo ut in ramis vestito; racemis bostrycino-umbelliformibus lateralibus alternatis 4–6-floris pallide luteo-hirtellis pedunculo ca. 3 cm. longo; bracteis subfoliaceis ovato-lanceolatis 1.0–1.5 cm. longis; pedicellis 0.5–0.75 cm. longis; lobis calycis ovato-lanceolatis apice longe acuminatis basi cordatis 1.5–2.0 cm. longis 0.3–0.5 cm. latis intus basi uniglandulosis; corollae tubo longe cylindrico 3.0–3.5 cm. longo basi ca. 0.3 cm. diametro fauce staminigero appendiculato-constricto extus pallide sericeo intus hirtello haud squamuligero lobis oblique obovatis ca. 1.5 cm. longis extus intusque glabris valde reflexis; nectario e glandulis subliberis oblongoideis 0.4–0.5 cm. longis ovaria ovoidea glabra bis terve superantibus; folliculis ignotis.—“Costa Rica: between Aserri and Tarbaca, Prov. San Jose, alt. 1200–1700 m., Dec. 6, 1925.” *P. C. Standley 41332* (U. S. National Herbarium, TYPE, Mo. Bot. Garden Herbarium, photograph and analytical drawings).

*Prestonia isthmica* differs from the neighboring *P. mexicana* A. DC. because of its longer and narrower corolla-tube with glabrous lobes, its long-attenuate, cordate calyx-segments, and its broader and larger leaves. The technical distinction of greatest significance is found in the nectaries, which are ovoid-quadrate, crescent, and barely attain the length of the carpels in the latter species, and are narrowly oblongoid, essentially separate, and about twice surpass the length of the carpels in the former.

**Laubertia Sanctae-Martae** (Rusby) Woodson, n. comb.

*Echites Sanctae-Martae* Rusby, Descr. S. Am. Pl. 85. 1920.

**Laubertia Pringlei** (Greenm.) Woodson, n. comb.

*Streptotrachelus Pringlei* Greenm. Proc. Am. Acad. 32: 298. 1897.

*Prestonia Langlassei* Standl. Contr. U. S. Nat. Herb. 23: 1159. 1924.

The genus *Laubertia*, established by A. de Candolle in 1844 with a single species, *L. Boissieri*, until recently has been perhaps the outstanding enigma of the Apocynaceae. The type species was based upon two specimens collected by Pavon in Peru and which are now deposited in the Herbier Boissier at the University of Geneva. Apparently these are the only representatives of the original collection in existence at the present time. Although adequately described by de Candolle, the genus immediately fell into disuse, probably because few subsequent collectors retraced the itinerary of Pavon until recently.

Mueller-Argoviensis did not mention the genus in any work which the present writer has been able to consult. Miers was fortunately content merely to refer to the genus in his monograph 'On the Apocynaceae of South America,' and to call Grisebach to account for using *Laubertia* as a sectional designation under *Echites* to include three species of the West Indies properly referable to *Rhabdadenia*. K. Schumann, in Engler & Prantl's 'Natürlichen Pflanzenfamilien,' was evidently without first-hand knowledge concerning *Laubertia*, placing it between the distantly related genera *Rhabdadenia* and *Mandevilla*, and keying it upon the character of a three-lobed "discus," although later correctly describing that structure as five-lobed.

*Laubertia* is one of the most distinct and natural genera of the subfamily Echitoideae of Apocynaceae. As in *Prestonia*, the orifice of the corolla is conspicuously thickened and the tips of the anthers are slightly exserted, but unlike that of the latter genus, the calyx is eglandular. At present, the genus consists of only three species: *L. Boissieri* in Peru, *L. Sanctae-Martae* in Colombia, and *L. Pringlei* in southern Mexico.